PHILADELPHIA MEDICAL TIMES.

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ORIGINAL LECTURES.

REPORT OF TWO CLINICAL LECTURES ON THE RELATION OF RENAL DISEASE AND HEART-DISEASE.

BY JAMES TYSON, M.D.,

One of the Visiting Physicians and Pathologist to the Philadelphia Hospital.

Reported by LOUIS STARR, M.D.

I.—HEART-DISEASE TO KIDNEY-DISEASE.

GENTLEMEN,—I desire to invite your attention, in the course of perhaps two lectures, to the consideration of combined heart- and kidney-disease, a subject which has excited much discussion, and in regard to which, until comparatively recently, no very definite conclusion has been attained. At first it was supposed that the primary lesion in this combined affection was always seated in the heart, but on further investigation certain cases were observed in which disease of the kidneys unquestionably preceded heart-disease. Hence, in the reaction which followed, the kidneys were for some time held to be the invariable starting-point. At present, however, it is generally acknowledged that while most frequently disease of the kidney occasions alterations in the heart, there are undoubtedly many cases in which this order of sequence is reversed.

In illustration of the latter more rare form of this relation, I will read to you the histories, from notes taken by the resident physician Dr. Bruen, of two patients in whom it existed.

Case I.—Mary K., 39 years of age, married, was admitted to the Philadelphia Hospital on November 15, 1873. Both of her parents suffered from rheumatism and subsequent cardiac disease, and her mother died with dropsy, which came on after confinement. The patient herself had several attacks of rheumatism, but in other respects enjoyed fair health until about five months before admission, when she began to notice shortness of breath on exertion, together with œdema of the legs and ascites. At that time she was five months advanced in pregnancy. These symptoms grew slowly worse up to the time of her confinement, after which they continued to increase even more rapidly. Her labor was quite normal, and took place five weeks before her admission to the hospital. At admission her abdomen was enormously distended, the lower three-fourths were absolutely flat on percussion, and a marked sense of fluctuation was communicated to the fingers on palpation; the lower portion of the abdomen rested upon the thighs, and the friction of the opposed surfaces had caused extensive excoriation. The legs, from the feet upwards, were œdematous, and there was also some œdema of the hands and arms. The dyspnœa was so great as to render it almost impossible for her to lie down in bed; the respirations in the upright position numbered sixty per minute.

There was no evidence of any disease of the lungs or pleura. The area of cardiac dulness was increased, and a double mitral murmur, with an aortic systolic murmur, could be distinctly heard. The pulse was feeble and frequent, beating one hundred and fifteen times a minute. The urine was found to be diminished in quantity, high-colored and acid in reaction, and to contain a large quantity of albumen, the precipitate by acid and heat being equal to at least three-fourths of the bulk of the fluid tested. The microscope revealed numerous *hyaline* and *fatty* casts. Her general health was much reduced, desire for food was almost absent, and her bowels were constipated.

She was ordered half an ounce of Basham's mixture* three times daily, twenty drops of tincture of digitalis, repeated according to its action on the pulse, small doses of elaterium to relieve the constipation, and a nutritious diet, with a small quantity of whisky (f℥ij in twenty-four hours). Under this treatment the abdomen became somewhat less tense, a larger quantity of urine was passed, and the number of respiratory movements fell to thirty per minute, but the pulse remained frequent, and seemed to be unaffected by the digitalis, although its administration was pushed to the limit of safety.

This improvement was but temporary, and on November 20 it was decided to perform paracentesis. Six pints of a highly albuminous fluid were allowed to flow from the abdomen, when the canula was withdrawn and the aperture allowed to remain open. Two hours after the operation, the pulse, which had been beating one hundred and twenty per minute, fell to fifty, then to forty-six, and became dicrotic. The dicrotism was evidently cardiac in its origin, being produced by a second effort at systole on the part of the left ventricle. The patient was, however, in every respect better; indeed, felt quite comfortable. The effect on the heart and general condition was attributed to the digitalis, which was now, however, suspended.

November 24, the pulse was seventy-two, somewhat irregular, though entirely free from dicrotism; the respiratory movements were reduced to twenty-six, and were much more free, while the œdema was greatly diminished. She passed, on an average, three pints of urine each day. At this date the latter was found to contain an unusual number of mucous corpuscles, some spherical epithelium from the bladder, and a *few hyaline casts;* the amount of albumen was reduced to one-sixth of the bulk of the urine tested. Since the operation a large quantity of fluid, estimated at six pints, had trickled from the orifice in the abdomen. Quinine was added to the treatment.

Notwithstanding the continued use of diuretics (bitartrate of potash and infusion of juniper, infusion of scoparius, and free doses of digitalis), the ascites slowly increased, and on December 12 she was again tapped by Dr. Bruen, the resident physician, and one hundred and thirty ounces of fluid were removed. This was again followed by amendment, the œdema continuing to diminish. By December 22 the opening of paracentesis was closed, the *urine was free from albumen, and no casts were found after prolonged and careful examination.*

On December 24, after exposure to cold, she became much worse, and by December 25 the legs were again swollen almost to bursting, and had assumed an erysipelatous hue. The respirations were hurried, the skin was hot and dry, and the urine was so charged with albumen that it became almost solid on the application of heat and nitric acid. Paracentesis was performed for the third time, fifty ounces of fluid being removed. No relief was experienced from this operation: in fact, the dyspnœa steadily increased, and the pulse became

* ℞ Liq. Ammon. Acetatis, f℥iij;
Tr. Ferri Chlor.,
Ac. Acet. dest., ää f℥ii;
Curaçoæ vel Syrupi q. s. ad fac. f℥vi. M.

so feeble that it could scarcely be counted at the wrist.

At 3 P.M. on December 27 the pulse at the wrist was extinct and no cardiac impulse could be felt, but on auscultation the heart was found to be beating one hundred and thirty-nine times a minute. Upon extending the examination to the other parts of the chest, the physical signs of pleuritic effusion were detected on the right side. At 6 P.M., as a last resort, this side of the chest was tapped, and twenty-eight ounces of liquid removed; immediately afterwards the patient felt easier, but soon began to sink, and died at 9.30 P.M.

The general plan of treatment remained the same as that already mentioned throughout the course of the illness, although, as the indications varied from time to time, the quantity of digitalis used, as well as the form of its administration, was changed: as stated, other diuretic preparations, such as acetate of potash, juniper, sweet spirit of nitre, etc., were also tried.

At the *autopsy*, which was made twenty-four hours after death, a quantity of fluid, eighteen ounces by measurement, was found in the right pleural cavity, and the upper part of the parietal and visceral portions of the pleura was covered by a moderately thick layer of fresh lymph. The right lung was congested and somewhat compressed, but not at all inflamed. There was nothing abnormal in the left lung or pleura. The heart weighed fifteen and a half ounces. The left ventricle was dilated and hypertrophied. The leaflets of the aortic valve were thickened; this alteration was most marked along the edges of the leaflets and in the corpora aurantii; the latter were increased in size, being about as large as a split pea. Both leaflets of the mitral valve were thickened, and they were fused along their edges so as to form a funnel-shaped projection into the cavity of the left ventricle, with only a slit-like opening through which the end of the thumb could scarcely be passed; the valve thus coalesced was the seat of calcareous deposit. The right ventricle was also moderately dilated and hypertrophied; the pulmonary and tricuspid valves were healthy.

The liver weighed ninety-seven ounces, and was very fatty. The kidneys were lobulated, and weighed, together, fourteen ounces: they were, therefore, somewhat enlarged, and also congested; but in other respects they appeared normal to the naked eye. On microscopical examination, the renal tubules were in part lined with healthy epithelium, or with epithelium which was only slightly granular; in other portions, however, the epithelium was highly fatty. There was also slight increase in the interstitial fibrillar tissue. No trace of amyloid degeneration could be detected by the iodine test.

Case II.—William ——, 51 years of age, was admitted to the medical wards of the Philadelphia Hospital on November 1, 1873. He had for a long time been an attendant about the hospital, and was very intemperate. At the time of admission he was suffering from dyspnœa, œdema of the legs, and ascites; and on examining the heart a double aortic murmur was detected. His urine, which was bloody and highly albuminous, contained casts filled with broken-down epithelial cells, granular casts, and casts containing blood-corpuscles. He died in one week: previous to this event, however, the amount of albumen and blood in the urine had greatly diminished.

The post-mortem examination revealed great thickening and calcareous degeneration of the leaflets of the aortic valve, while the aorta itself was extensively atheromatous. The liver was cirrhotic. The kidneys were turgid with blood, and therefore a little heavier than in health: in other respects they were normal, with the exception of a slight increase in the interstitial fibrillar tissue.

When the lesions brought to light by the post-mortem examination are considered in connection with the symptoms observed during life and with the previous histories, there can be no doubt that in each of these cases cardiac disease was primary, and that the alterations in the kidneys were brought about by the disturbance of the circulation thus produced. When the mitral or aortic valves are diseased, especially when the valvular leaflets become rigid or contracted so as to allow of regurgitation, there is always a tendency for the blood to accumulate on the venous side of the heart. Under these circumstances the movement of blood through the kidneys is retarded, these organs become greatly congested, and, although it cannot be said that an inflammatory process is set up, the simple increment of pabulum in the augmented supply of blood must encourage the production of an increased amount of interstitial connective tissue. This may in time undergo contraction. At any rate, these kidneys are but little enlarged, or they may remain normal in size, or may even be smaller than natural. When enlargement is present it is not usually more than can be accounted for by the large amount of blood present by engorgement. If the kidneys be smaller, this condition interferes with the entrance of arterial blood, reacting upon and causing further alteration in the heart, which in its turn produces greater structural change in the kidneys. Thus the change of action and reaction continues until the patient is carried off by the combined disease.

When the alteration in the kidneys is far advanced, the epithelial cells lining the renal tubules, being deprived of their proper amount of healthful nutriment, undergo fatty degeneration. This change, however, is rarely met with in comparison to the condition of increased connective tissue and contraction.

Further, a kidney which is constantly engorged with blood is much more liable to attacks of acute inflammation than one which is in a normal state. This fact explains the frequency with which, in cases of this nature, the urine becomes suddenly bloody and highly albuminous and filled with epithelial casts and blood-casts, even after very slight exposure, such as would produce no effect in a healthy individual. In the intervals between such attacks the blood-casts disappear entirely from the urine, and the epithelial and granular casts also become much less numerous and often disappear, the granular continuing longest. When the kidneys are so far degenerated that fatty casts appear in the urine, it is extremely rare for them to be absent at any time throughout the course of the disease. The patient whose history I detailed to you first is the only one in whom I have ever known fatty casts to disappear entirely, except in the albuminuria of pregnancy, in which it is not uncommon for all casts to disappear after labor. Another interesting feature in the same case was the more ready absorption of the digitalis after paracentesis was performed, and the prompt appearance of this physiological effect. This is to be explained on the well-known principle that osmosis is facilitated by diminished pressure. I have also observed it when venesection has been

practised during the administration of the drug; quantities which had apparently no effect before the operation displaying promptly, and even in an alarming degree, their effect upon the heart.

ORIGINAL COMMUNICATIONS.

ON SOME CASES OF NEGLECTED IRITIS.

BY H. S. SCHELL, M.D.

INFLAMMATION of the iris is one of those disorders which has long been well understood, not only by ophthalmologists, but by the profession generally.

Such, at least, is the usual impression. But the fact is that the disease in question is very often overlooked or mismanaged, and in consequence many cases may be seen in which, though the acute stage has finally subsided, the eye is left permanently injured: its functions can no longer be properly performed.

In some instances of this kind, vision may be interfered with by bands of false membrane crossing over or even occluding the pupil.

Or, although the pupil is clear, attachments may remain between the iris and the lens capsule, keeping the former in a smouldering fever of restraint, ready to burst out at any moment into a vigorous attack of fresh inflammation.

And this time the mischief may be so thoroughly done that the choroid, retina, and vitreous, one or all, are involved, and the vision impaired beyond hope of recovery; or the healthy eye may finally set up sympathetic action, and to save it we may be forced to remove the one first attacked.

Especially in iritis must we oppose the very beginnings, if we hope to effect a perfect cure; and it therefore becomes a matter of much importance to know why these earliest stages are so often ignored.

In very many cases, it seems probable that the violent congestion or inflammation of the ocular conjunctiva, which so generally accompanies the disease, is responsible for its obscuration.

And it is quite natural that it should be so. A person with a sore eye applies for treatment. His eye is painful, watering profusely when any attempt is made to examine it. The spasmodically-contracted lids are forced apart just long enough to disclose a crimson conjunctiva and a clear cornea, and the first impulse is not to subject him to the pain of a further examination, but to prescribe some cooling lotion or astringent drops, and let him go in peace.

The following is a case in point:

M. C., female, aged 39, came to the Eye and Ear Dispensary of St. Mary's Hospital on the 5th of August, 1873. Her right eye had been very painful for two weeks. She had consulted one physician who had given her an astringent wash, and afterwards another who had advised the constant application of a cold infusion of slippery elm bark. But these medicines had only caused an aggravation of her symptoms. Upon examination, an intense congestion was found pervading the conjunctiva; but through the network of interlacing vessels could be dimly seen a rosy zone of radiating vessels surrounding the cornea. There was a well-marked phlyctenula just beyond the outer margin of the cornea; also great intolerance of light, lachrymation, and dimness of vision. The iris was of a dull yellowish color, while that of the sound eye was a bright gray. Under the influence of alternate light and shade the contracted pupil moved very slightly and sluggishly.

She was ordered, for local use, a solution of the sulphate of atropia and to take colchicum and Dover's powder. When she returned to the dispensary on the 8th, the pupil was dilated, but irregularly, showing two points of adhesion to the lens. Mercurial inunction, and iodide of potassium, gr. x t. d., were prescribed, and on the 17th the pupil was widely and regularly dilated, the pain and photophobia gone, and the eye apparently well, except the remains of the phlyctenula, which was shortly cured by the local application of calomel. The atropia, however, was continued for the remainder of the month.

In the following case, also, the conjunctiva had occupied more than its share of attention:

C. S., a married woman, aged 32, presented herself for treatment August 5. Her left eye had been sore nearly a month. During that time her physician had prescribed for her various eye-drops; had blistered her on the temple and back of the ear. Upon inspection, the conjunctiva was found deeply injected, the episcleral zone barely discernible, the iris dull, and its color changed from blue to green. A well-marked, brownish nodule, the size of a hemp-seed, projected from the surface of its upper and outer segment, and opposite this point the episcleral zone of vessels was better marked than elsewhere. A few drops of an eight-grain solution of atropia placed in the eye caused in the course of half an hour some irregular dilatation of the iris, showing the existence of a synechia behind the nodule and at the lower edge of the pupil.

Upon close cross-examination, no further evidence of venereal taint could be obtained.

A solution of atropia for local use and mercurial inunction were ordered.

On the 15th the gums were found to be spongy; the nodule on the iris had disappeared; there was slight hypopyon in the anterior chamber, and the pupil was regularly and widely dilated. She was ordered to discontinue the inunction and to take pot. iod. gr. xv t. d., also liq. morph. sulph. f℥i p. r. n., for the relief of nocturnal pain. On the 5th of September she considered herself quite well.

There is another class of cases, where the conjunctiva is not at fault, but the condition of the iris is disguised by that of the cornea. And here it is well to remember that iritis is often the main and visible link in a chain of disorder with keratitis at one end and destruction of the choroid and the retina at the other.

An inflammation of the cornea is always accompanied by more or less injection of the small, straight radiating vessels around its edge; but whenever that ring of vessels is seen, suspicion should be aroused as to the condition of the iris, and a thorough examination of the latter should be made without delay.

L. S., a married woman, aged 40, applied for treatment on the 2d of September. Her left eye had been troublesome for a month, and had been treated with various drops and lotions without benefit. There was a general haziness of the cornea, with some dotted

opacity on its posterior surface, and a slight injection of the sclerotic vessels bordering the cornea. The naturally brown iris was of a somewhat more reddish hue than in the healthy eye, and the pupil responded not at all to the stimulus of light. A few drops of an eight-grain solution of atropia produced a scarcely visible effect on the pupil, which showed, however, no irregularity in its outline. The woman was apparently in the best of health, but said that her children were unhealthy, and that she had had several abortions. She was ordered to apply locally a four-grain solution of atropia three or four times a day, and to rub ung. hydrarg. ℥i in each armpit night and morning. On the 12th, the pupil was fully dilated and the eye improved.

Pot. iod., gr. x t. d., was prescribed in place of the mercury. On the 4th of October she was apparently well.

And so one might go on, almost ad infinitum, with the recital of cases of this kind, in which the sufferer is finally forced to seek relief at the hands of specialists or to endure a vision permanently impaired. And yet no disorder of the eye is more certainly detected than iritis, if only a careful search be made.

A particular set of symptoms always accompanies the affection; but while some of these are always present, the others may vary in degree and even be entirely absent.

These symptoms are: 1. *Sluggishness of the pupil under the stimulus of light.* This is the most important test of all, and is present in every case. The want of mobility results from the congestion of the vessels of the iris and from effusion into its structure. As the disease advances, pseudo-membranous attachments form to the capsule of the lens, or bands extend across the pupil, or even fill it up and prevent all motion.

If the healthy eye is closed and the other alternately shaded by the hand and exposed to the light, we can generally arrive at a pretty good notion of the condition of the iris. If, however, any doubt remains, a few drops of a four-grain solution of atropia may be placed in the eye, and in some cases, where the secretion of tears is so great as to wash away the mydriatic almost immediately, it may be necessary to repeat the application in a few minutes. After the lapse of twenty minutes or half an hour the effect on the pupil may be quite evident to ordinary inspection. If not, we can take a lens of two and a half or three-inch focus, and concentrate the light of a lamp obliquely upon the pupil. A similar lens may now be used to examine the eye, and may show us perhaps little points on the anterior capsule of the crystalline lens, left by the iris in breaking loose from its false attachments; other adhesions not yet broken down; minute specks of plastic matter on the papillary margin; or a swollen condition of the whole membrane.

Unless absolutely necessary for purposes of diagnosis or treatment, it is, however, almost a cruelty to put a strong solution of atropia into the eye of a person who is obliged to depend upon that organ in his daily occupation. The intense glare of light which often results from the improper use of atropia is distressing in the extreme, and the paralysis of the accommodation renders vision practically useless for any kind of near work. The dilatation will last in such cases for a week or ten days, to the great annoyance and alarm of the patient.

2. *Change of color.* This is sometimes the most striking symptom at first glance. The result is such as might be produced by the mixture of a reddish-yellow with the natural hue, though it is often disguised by haziness of the cornea, or turbidity of the aqueous humor. The change in the general appearance of the iris is aided by the fact that the bright and delicate radiating fibres which may be seen to compose the healthy organ become blurred and dull.

3. *Sclerotic zone.* The rosy zone of short, straight vessels surrounding the cornea and radiating from the pupil as a centre is always present in iritis. The irregular, branching vessels of conjunctival hyperæmia may overlie this zone, but do not often hide it entirely. We must look for it through the conjunctiva, and we are aided in doing so by sliding the latter membrane about a little with the fingers, so as to heighten the contrast between the movable vessels and the fixed ones beneath. If keratitis coexists, the zone may be due to that affection, and we must look for other symptoms.

4. *Pain.* More or less pain about the eye is always present, especially at night. But this symptom is, of course, not peculiar to iritis.

5. *Intolerance of light* is seldom entirely absent. This condition, however, may depend on other pathological changes than the one under consideration, as may also—

6. *Dimness of vision.*

Attention to these symptoms will serve to detect any case of iritis, and in its ordinary or plastic form no other will be marked. But in the serous form there may be only slight injection of the episcleral zone, the conjunctiva may be unaffected, and, while the color of the iris is but little changed, the absence of mobility is sometimes complete.

In the gummatous form we have the symptoms of a syphilitic gummy tumor of the iris superadded to those denoting an inflammatory condition of that organ.

In regard to treatment, it is well to bear in mind that cold demulcent infusions and astringent washes only aggravate the disease. The conjunctiva, therefore, may be left to take care of itself, while energetic measures are directed towards the little membrane on which so much depends.

The sulphate of atropia is from first to last an indispensable remedy. If the alkaloid itself is used, a solution of sufficient strength can be obtained only by the addition of an acid, and it is very difficult not to get an excess of the latter, with a resultant solution which is highly irritating to the already inflamed conjunctiva. A solution of four grains of the neutral sulphate in a fluidounce of distilled water forms a perfectly bland application.

It is best applied by drawing down the lower lid and placing within it, by means of a pipette or a quill, a couple of drops every hour until the pupil is fully dilated or we find that it is firmly bound by synechia. In the latter case the atropia is useless, and should be suspended until the resolvent effects of mercury can be obtained.

It will also be futile to employ atropia in the beginning, if the grade of inflammatory action is very high, or the ocular tension is much increased. The former case will need a certain amount of derivative treatment, leeching of temples, purgation, etc., and the latter the performance of paracentesis of the cornea before the mydriatic can be absorbed.

When the pupil has been once fully dilated, it is often sufficient to use the atropia once, daily, to keep up its influence; but it may be instilled oftener, of course, should it be necessary. The object is to get and keep the iris in the condition of as small a rim as possible. Even after the case is apparently cured we find it is better to continue the local influence of the drug for a couple of weeks, or until there is no longer a suspicion of iritis; not persisting too long, however, as it appears to have a tendency to produce granular lids.

The pupil should be closely examined every day or two, and if adhesions are formed or forming, we should at once resort to the administration of mercury,—preferably by inunction. If the adhesions are recent they will generally yield to a smaller amount of mercurial than is necessary to touch the gums.

Morphia, in sufficient doses to allay pain, has a most beneficial influence on the course of the disease.

In any case, it is well to fill up the space around the globe, over the closed lid, with soft cotton, and cover with a bandage. This sets the eye at rest, and aids in the contraction of the vessels, by the warmth it maintains. But in bad cases compresses wrung out of hot water must be kept constantly applied until the most urgent symptoms are alleviated.

In every instance it will be necessary to find out the cause on which the affection depends,—whether traumatic, rheumatic, syphilitic, malarial, sympathetic with the other eye, or with some pathological condition of the system,—and to adapt the treatment to the circumstances. Cases which are obviously of rheumatic origin, and without much plastic effusion, are often readily subdued by the administration of Vance's pills, one of which contains ext. colchici acet., gr. 1¼, pulv. ipecac. comp., gr. iv: one to be taken before breakfast and dinner, and two at night.

In a large proportion of cases our suspicions will be directed to a syphilitic origin, and, however unjust this may often be, it is certain that mercury is frequently indispensable to the cure: so that it is generally better to give the patient the benefit of the doubt so far as the privilege of taking the medicine is concerned.

A CASE OF EXCESSIVE ERUCTATION.

BY ALONZO L. LEACH, M.D.

THE history of the following case is presented for publication because it bears upon interesting questions in physiology, and on account of the excessive character of the eructation.

John B., Irishman, æt. 28; laborer. At noon, July 7, while in the possession of excellent health, engaged in work that subjected him to the intense heat of the sun, he became suddenly prostrated. The perspiration, at the time profuse, was checked; he experienced extreme weakness, with vertigo and headache. In this condition he was forced to retire to a shady spot, and towards evening returned home. The following day, the above symptoms partially disappearing, he resumed work, and continued until 4 P.M., when he was seized with another attack, differing from the first as follows: violent headache, vomiting, and *belching of wind*. The next day he persisted in his efforts to work, continuing to do so until nine o'clock A.M., when he was affected as previously, the eructation lasting until noon. He returned home; passing the remainder of the day and night free from eructation, with headache and general weakness. At six o'clock on the morning of the 10th the eructation came on, twelve hours after fasting, continuing throughout the entire day, relief being afforded at its close by medicine. In this condition he remained, passing gas at irregular intervals, until July 14, when at 10 P.M. an attack of eructation began, lasting through the night and the following day and night, when he fell asleep, completely exhausted, having spent two sleepless nights. On awakening, the eructation reappeared, and continued almost constantly (temporary relief being afforded at times by the administration of drugs) until the day on which I first saw him,—August 18.

At this stage of the disease I found him profoundly anæmic, with a cadaverous appearance, much emaciated, and an anxious countenance, presenting the appearance to a superficial observer of one laboring under some chest-trouble. The perspiration was standing in drops upon the face, which was unusually pale, the lips being livid. Respiration was performed with difficulty. Gas was constantly passing from the stomach with a peculiar and characteristic noise. In conversation he was frequently interrupted, and talked with difficulty, owing to the rapid and constant eructation. The gas was odorless and tasteless. He was unable to lie down, for fear of choking, and for a number of nights had not been able to sleep except in a sitting posture. He had eaten but little for days, and now everything he ate escaped from the stomach with the gas. From the date of his attack he had lost twenty-six pounds, and he was in an actual state of starvation. He was subjected to flashes of heat, followed by coldness. All of the symptoms were exaggerated and the patient seriously affected by his coming in contact with the sun's rays. Percussion showed the stomach enlarged and tympanitic. I placed the patient at once upon charcoal, with general and nerve tonics, the result being complete recovery.

Remarks.—The first point of interest to be noticed in this case is the peculiarity of the attack. This man, while exposed to excessive heat, became affected by it. The insolation was rather of an exhaustive type, in which nervous depression predominated. With the cerebral symptoms the eructation developed itself, and the interesting inquiry is, Was it of nervous origin? We think the sudden gastric symptoms, following so closely those of a nervous character, point clearly to the brain as the primary seat of trouble. The brain, suffering from depression, became incapable of supplying the stomach with a due amount of nerve-stimulus, and it, in turn, became disordered, or else the train of symptoms was developed by an unexplained sympathetic or reflex action. We have also favoring this theory the facts that the eructation was influenced by the patient's coming in contact with the sun's rays, and that local treatment gave but temporary relief, complete recovery not taking place until all nerve-symptoms had disappeared.

The second question of interest is, From whence did the gas originate?

According to authorities on diseases of the stomach, we have three possible sources from whence gas originates in that organ.

1. Air swallowed.

2. Gas generated from the food and secretions by decomposition or fermentation.

3. Gas secreted (improperly termed) from the blood.

In the case before us we exclude the first source, and pass to the consideration of the second, it being the principal source in all ordinary cases of eructation. Here we have, in the first stages of this case, eructation coming on hours after food has been taken, and, when taken, seeming not to be affected by it. Now, it is established that small quantities of food may give rise to large quantities of gas, and we might here account for the presence of the gas on the food-theory, and admit that a process of accumulation had gone on during the act of digestion, and that hours after one would have supposed the food properly digested and absorbed, the pressure became so great as to overcome the resistance at the cardiac opening of the stomach and the gas escaped. We go a step further, however, and reach a period in the case when the eructation was excessive and constant, when no food was taken into the stomach, except at times in small quantities and that being rejected, and when the patient was actually starving. How can we account for the gas being a product of the food at this stage? Doubting this source, could it have been due to changes in the secretions? Certainly not of a putrefactive character, for the gas was odorless. Possibly a fermentative change, for we must admit the presence of secretions, with little if any food on which to act. Could this gas have originated in the stomach at all? We confess our first thought was to accept this case as proving the blood-origin, but we find arrayed against such a theory many able writers on the subject,—among them Brinton, of England. Favoring this view of the case, we have a weakened stomach and capillaries admitting of a freer escape of gas, the constant eructation demanding an inexhaustible supply, a blood surcharged with gases from the enormous waste of tissue, etc., etc.

In conclusion, does not this case agree with the celebrated experiment of Magendie, and favor the doctrine taught by many physiologists and writers on diseases of the stomach,—that gas may be excreted by that organ? Aside from these questions, the case is one of interest.

2118 Spruce Street, Philadelphia, March 19, 1874.

Impacted Gall-Stone (*The Clinic*, February 14, 1874).—Dr. Confer reports the case of a man, æt. 45, who died in consequence of an impacted gall-stone which was found firmly fixed in the cystic duct. His last sickness was of six days' duration, during which time there were persistent nausea and vomiting, with great tenderness of the abdomen, obstinate constipation, scanty urine, etc., but not the slightest discoloration of the skin or conjunctivæ, jaundice having been entirely absent.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

Reported by Dr. John M. Keating, Resident Physician.

FACIAL ERYSIPELAS.

It may not be uninteresting or devoid of some practical information to present two cases, the termination of which was rather different from that generally seen in epidemics of facial erysipelas.

Case I.—T. W., aged 48, a hard drinker, entered the Philadelphia Hospital on the evening of the 19th of February. For more than a week he had been exposed day and night, while under the influence of liquor, sleeping upon cellar-doors, and deprived of proper food and clothing. He stated that four days previous he noticed upon the bridge of his nose a red patch, which extended rapidly until, when his friends brought him to the hospital, the whole face had become involved. When first seen, his temperature was 104⅘°; his face very much swollen, particularly about the upper lip and nostrils; there was some swelling also of the mucous membrane of the nose. He complained of great tension of the scalp, and pressure upon it would cause him to complain, even during the delirium, which became so troublesome as to require the nurse to strap him to his bed to prevent his wandering around the ward. The pulse was hard and quick (120). His general condition denoted the great prostration which always accompanies such diseases in drunkards.

He was ordered a tablespoonful of Basham's mixture (containing fifteen drops of tinct. ferri chlor.), with one grain of quinine every two hours, plenty of milk and beef-tea, alternating every hour; also, an external application of—

℞ Camphor. resin., ʒi;
Unguent. hydrarg., ʒi.

The bowels were opened by one-sixth of a grain of calomel every hour until they were gently moved; a dose of castor oil was then administered.

Evening of 20th.—Was very delirious all day, had to be strapped in bed; drinks as much milk as he is allowed, constantly asks for it. Ordered three grains of quinine every three hours. His temperature fell this morning to 102°, and still keeps so; pulse 100; no lung-complication; no albumen in urine.

February 22.—The night-nurse reports that he slept well after he had taken one-quarter of a grain of morphia, which was ordered at midnight.

February 24.—Continues as usual; is very weak; the pulse has been varying from 100 to 120; the temperature has been gradually diminishing; on the morning of the 21st it was 101°; in the evening, 101½°; morning of 22d, 100⅘°; to-day it is exactly 100°. The swelling of the face is subsiding. There is aphonia and some cough, with swelling of the mucous membrane of the pharynx, which is coated with a tenacious, grayish exudation. Inhalations of lime-water and paregoric are repeatedly given, with a gargle of chlorate of potash and tincture of cinchona. There is no lung-trouble. An enema of castor oil and turpentine was given to counteract the tympany, from which he suffers much. The delirium still continues. The whisky, which he has been taking since the 22d, was increased to one ounce every three hours, as milk-punch. Stopped Basham's mixture, and ordered simply twenty drops tinct. ferri chlor. every two hours, with two grains of quinine every four hours, and small repeated stimulant doses of tinct. opii deod.

February 26, morning.—Not quite so delirious; rested better last night; bowels have not been opened since last note; one-eighth of a grain of calomel every hour

during the day ordered, to try to resolve the membrane in the throat, and also to relieve the bowels. The deposit seems to impede respiration. The lungs are still clear. After each inhalation strips of false membrane come away, leaving a raw surface.

February 26, evening.—Crepitant râles, together with sibilant and sonorous ones, are heard over right chest. Since yesterday he has been taking half an ounce of whisky every hour; ten grains of carbonate of ammonia are added to each second dose. Poultices to chest seem to afford but little relief. Died at 2 o'clock A.M.

Post-mortem, seven hours after death. Before taking off the calvaria, there was no redness of the membranes, but some subarachnoid œdema was noticed. There was no opacity of the membranes at the base, but some basilar effusion, and more liquid than usual in the ventricles. There was decided venous congestion; the veins at the base of the brain standing out prominently, well filled. Quite an extensive deposit, resembling that seen before death upon the tonsils, was noticed, upon detaching which it was found to cover portions much ulcerated. The mucous membrane of the pharynx, larynx, and trachea was swelled and inflamed. The bronchial tubes red, and containing frothy mucus. The pleuræ of the right lung were adherent with freshly-exuded lymph; the lung itself, solid anteriorly, and œdematous posteriorly. The heart contained ante-mortem clots.

Case II.—Mary S., aged 32, a native of Germany; had previously been pretty healthy; was an assistant in the surgical wards of the hospital during the cold weather, and had consequently been exposed to variations of temperature for some time. On the 20th of December she was sent to the medical floor, complaining of cold in the head, with its usual concomitants of fever, headache, and nasal discharge. She was put to bed, the routine treatment adopted of diaphoretics, etc., with the addition of quinine in small doses. Two days afterwards, a small red patch made its appearance on the right ala nasi, which extended rapidly, and soon left no doubt as to the correctness of the diagnosis of facial erysipelas. Twenty drops of tinct. ferri chlor. were ordered every two hours, her bowels opened, quinine (twelve grains daily) given, and a dressing of ten grains of sulphate of iron to the ounce of water, frequently changed, applied to the face. The inflammation extended rapidly, and soon spread over the entire face and neck.

On the sixth day she complained of headache. Her temperature was never above 103°; her pulse quick and wiry.

On the 1st of January I assumed charge of the ward, and found her condition as just described. Her face was caked and dry from the iron solution; her bowels had not been opened for nine days, and her state altogether pointed to anything but a favorable prognosis. Mucilage of slippery elm was now used externally, one-sixth of a grain of calomel given every hour until her bowels were moved, and followed by a dose of oil. The quinine and iron were diminished, and nourishment in the form of milk, beef-essence, etc., was given at stated intervals. She had a severe laryngeal cough, with much dryness of the throat, which was controlled by atomization with paregoric and lime-water and cracked ice. But the headache, which was supposed from her general condition to be due to this, did not disappear. Crackling râles of hypostatic pneumonia were heard posteriorly. On the 3d she became delirious, but at intervals she could be aroused, when she complained of her head. Towards evening she was seized with convulsions, which began with twitchings of the right side of the face, then the left, and finally the whole body became involved. During these attacks the pulse was strong and hard, at other times quick and irregular; pupils contracted. Wet cups were applied to the nape of the neck, cold cloths to the head, an injection to move the bowels freely, warmth to the feet, etc., but all were of no avail: she died that evening.

A post-mortem was made early next morning, with the following result:

Hypostatic congestion of the skin more marked in places which had been occupied by the inflammation, though noticed elsewhere; the face was pale; left lung adherent with freshly-exuded lymph; the pleura markedly inflamed; right side normal.

Hypostatic pneumonia posteriorly of both lungs, with much œdema; bronchial mucous membrane red and swollen, and frothy mucus in bronchial tubes; right auricle filled with a large adherent ante-mortem clot, which extended into the ventricle and pulmonary artery. A similar one was seen on the left side. The dura mater was rather pale, and not adherent; the membranes at the base were decidedly opaque, particularly around the medulla oblongata, pons, and cerebellum. In the sulci of the brain posteriorly there was a serous exudation, but towards the anterior portion this was replaced by a gelatinoid substance beneath the pia mater, which in places was about one-tenth of an inch in thickness. Where the deposit rested upon the brain the surface was pale; at other portions beneath the membranes there was marked congestion. The ventricles contained but little fluid.

The principal points of interest in these cases were the extension of the inflammation inwards, the total failure of treatment, and the gloomy prognosis which they teach in all such cases, where there is much brain- or lung-involvement. A number of cases of this disease have been treated here during the past quarter, presenting different types and complications. The usual treatment adopted was a supporting one mainly, commencing with an emetic or purgative, immediately followed by iron and quinine in rather large doses, milk, beef-tea, etc., and stimuli, when indicated by great exhaustion or previous habits. The local application which seemed to be most grateful was either oxide of zinc ointment or cloths of lead-water and laudanum. In four of the cases whose temperature-record was accurately kept, the maximum was reached on the third or fourth day. A sudden deflorescence succeeded this, and within thirty-six hours from the maximum (forty-eight at the utmost) the temperature became normal, or even went below it, in one case to 97°, and in another to 96°. In one case, that of a young girl, in whom there was no complication, the maximum was reached on the evening of the sixth day, and by a gradual deflorescence the temperature was 98½° on the eleventh day. Of course the number of cases here quoted is too few to establish a precedent. The main object in speaking of them is to show that a very gradual descent in the temperature-curve does not always denote a complication, but that a serious complication may exist without an extraordinarily high temperature.

TRANSLATIONS.

TEMPERATURE OF THE HEART AND LUNGS.—Ed. Albert and S. Stricker assert (*Wiener Med. Jahrbücher*) that when measurements of the temperature of the heart are made by introducing the thermometer into the cavities of the heart, so that it is exposed to the blood, the results obtained are not accurate, since the instrument is influenced both by the temperature of the heart and by that of the blood. To avoid this source of error, they inserted the bulb of the thermometer into a pocket in the muscular tissue of the heart, and found that they

obtained in this way a temperature 0.5° to 0.7° C. higher than that given when the bulb was only placed in contact with the surface of the inner wall of the ventricle. The supposition that the temperature of the substance of the heart is higher than that of the blood (at least in the left ventricle) was confirmed by a second experiment. A thermometer was passed from the aorta into the ventricle, and a difference of but 0.1° in favor of the temperature of the blood in the heart was noted; but after death a difference of 1° between the temperature of the ventricle and its contents was noticed.

The right auricle was found to be higher in temperature than the descending cava, and the right ventricle still warmer than the auricle, while the temperature in the ventricle rose as the apex of the heart was approached. The differences in temperature were not removed by ligation of the ascending cava, but were in some cases increased. The variations in the right ventricle are not due alone to the higher temperature of the ventricle, but also to the lower temperature of the blood of the descending cava as compared with that of the ventricle itself. It was supposed that the blood of the descending cava was warmed by the blood of the coronary veins, and this was proved by measurements of the temperatures of the blood in the descending cava and the pulmonary artery respectively, the ascending cava having been ligated. They found, also, that the temperature of the blood in the pulmonary veins is lower than that of the blood in the descending cava, and conclude from this that the blood is cooled in its passage through the lungs. There is, however, an element of doubt as to the temperature of the blood in the pulmonary veins, for as the thorax was opened it is possible that the temperature of the lungs was thus lowered, and with it that of the blood contained in them. W. A.

Acute Yellow Atrophy of the Liver in Pregnant and Lying-in Women.—A. Dupré (*Centralblatt für die Med. Wissenschaften*) recently had the opportunity of observing the post-mortem conditions found in three cases of poisoning by phosphorus and one case of acute yellow atrophy of the liver. The patients who were poisoned with phosphorus were children aged from ten to fifteen years; the one who died from the disease of the liver was a young woman of eighteen years, who had recently been confined.

In the livers of the first three cases he found a disposition to an enormous formation of fat, there being in the most advanced stage fatty infiltration of the entire parenchyma of the organ, and finally absorption of the fat which became free by bursting of the liver-cells, but there was no proper destruction of the tissues of the liver. In the acute yellow atrophy there was found parenchymatous inflammation, and in some places there were also evidences of interstitial inflammation. He has sometimes noticed fatty infiltration in addition to these changes, but this is by no means constant or characteristic. The results of these changes are molecular degeneration and metamorphosis of the hepatic tissues into a finely granular detritus, often mixed with molecules of fat. Dupré, therefore, regards the parenchymatous inflammation of the cells of the liver as the essential characteristic of this disease, from which pressure upon the smaller gall-ducts results, producing icterus. As in all glands, obstruction of the ducts causes a degeneration of the cells, and they undergo fatty atrophy. W. A.

The Influence of Digitalin on the Blood-Pressure of Mammals.—R. Böhm (*Dorpat. Med. Zeitschr.*) maintains his former conclusion that the increased blood-pressure consequent upon the administration of digitalin can be explained only by assuming an increased energy of the heart's action.

After section of the medulla oblongata in cats and dogs, care being taken to avoid injury to surrounding parts, the blood-pressure is diminished by about one-third of its force. If digitalin is injected into animals that have been thus operated upon, but a slight increase in pressure is produced: a return to the normal amount is never noticed. In order to disprove the assertion of Ackermann that the increase of pressure in the arterial system after the administration of digitalin had a peripheral origin,—namely, contraction of the peripheral arteries and more especially those of the abdomen,—Böhm, after section of the medulla oblongata, ligated the thoracic aorta above the origin of the great abdominal vessels. After this had been done there was for some time a variation in the amount of pressure, which soon, however, became fixed at a point almost normal. If injections of digitalin were made in animals under these conditions, the pressure increased, and the contractions of the heart became more powerful; a diminution in the energy of the heart was first noticed when the doses of digitalin were markedly increased. The increased blood-pressure due to the administration of digitalin is caused only by increased energy of the contractions of the heart. W. A.

Causes of the Pathological Changes in the Lungs consequent upon Section of both Pneumogastric Nerves.—A. Genzmer (*Pflüger's Arch.*) draws the following conclusions from a series of experiments which he has been making, relative to the influence of the section of the par vagum on the lungs: 1. The change in the activity of the heart caused by section of the par vagum has no influence upon the condition of the lungs. 2. Œdema of the lungs does not follow the constraint in breathing due to paralysis of the recurrent laryngeal nerves. 3. The entrance of saliva into sound lungs does not cause the change noticed after section of the pneumogastric nerves. 4. Hyperæmia and œdema of the lungs occur after section of the par vagum when no foreign bodies (as saliva) find entrance into the bronchi. 5. Paralysis of the branches of the par vagum distributed to the lungs causes a pathological change in the tissues of the lung. Paralysis of the same nerve-branches of one lung causes characteristic changes, especially a marked hyperæmia, and this, together with the diminished power of resistance of the lung, allows a second cause of irritation, as the entrance of saliva, to produce the characteristic changes. W. A.

The Influence of the Action of the Skin on the Secretion of Urine.—K. Müller reports (*Arch. für exper. Path.*) the results of some experiments conducted by him in Claude Bernard's laboratory, upon large dogs, in reference to this subject. The dogs were narcotized and operated upon, so that the urine could be collected as it came drop by drop from the ureters. Six experiments were made with ice-cold compresses, upon dogs which had previously been shaved, and it was found that the amount of urine secreted was increased from twenty-three to fifty per cent. This increase was not noticed until the application had been made for some ten to twenty minutes. Three experiments were made with warm compresses, and by baths of water at the temperature of 40° C., with the result of diminishing the secretion 17 per cent. Mustard plasters and blisters were allowed to remain for thirty minutes, but produced no change; and in three cases out of seven in which the skin was varnished, but a slight diminution in the amount of secreted urine was noticed. W. A.

PHILADELPHIA

MEDICAL TIMES.

A WEEKLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE.

The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.

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EDITORIAL.

THE USES OF HOSPITALS.

IN a recent editorial we endeavored to enforce the axiom that those who have opportunity have also responsibility; that the hospital physician owes it to himself, owes it to his brethren, and owes it to humanity, that he advance in some way our knowledge of healing. It is urged in answer that it is not every even good practitioner who has the ability to do this. Of course not; we can't all be cream; but we do object to the skim-milk rising to the top and usurping the place of the cream. Any man who for a succession of years holds a hospital position and does not add anything to the common stock, ought to be skimmed off: which is the long and short of our story.

As our hospitals are organized and furnished, however, even a Hunter or a Louis could do little or nothing, unless he had abundant leisure or had the pecuniary ability to pay, as some of our hospital physicians now do, a younger man to take notes of his cases. But clinical clerks are only a small part of what is needed. A fitly-furnished hospital should leave its staff no excuses in the direction of lack of help and instruments; whilst, so far as we know, there is not in the city of Philadelphia to-day a single general hospital thoroughly furnished with all the important modern instrumentalities *for the treatment of disease, let alone for its investigation.* What folly, then, to blame the staffs for accomplishing so little! Is it not a farce to expect Philadelphia to maintain its prestige when not a single general hospital in its confines has a properly fitted-up electrical room, and when not a general or a special hospital in its limit has proper bathing facilities? Is it a wonder that our glory is departing, and that already "Ichabod" seems lambent over us?

We doubt if any of our hospitals have more than a pretence of a laboratory, and we know of none that has well-appointed dissecting-rooms.

Will the new school hospitals remedy these things? Let us hope that the first good work they accomplish will be the shaming of our managers into thoroughly furnishing the institutions under their care. Surely, if our new hospitals do not redeem us, we may well join in the goblin's cry of "Lost! lost! lost!"

No amount of apparatus, however, it seems to us, will be of much use so far as the study of disease is concerned, unless some new plan or plans of organization are adopted. Take as an evil example of the present system the great city hospital. Its attending staff contains men of marked ability. Its wards overflow with such chances as have made the wards of La Salpetrière famous through the work of Charcot and his scholars; but the younger physicians come to it fresh and utterly untrained, so that probably not one man in twenty could take, on entering the wards, clinical notes of the least value. Before they have become trained to this duty, which is not imperative upon them, and which they may or may not care to fulfil, a new set succeeds them, and the same wearisome drill is to be gone over once more. The system may be very well as a means of training medical apprentices, but it imposes needless duties on the attending staff, and places sad obstacles in the way of fruitful work. What we want is a set of intermediate men, who shall come between the heads of wards and the fresh hands; men who shall be more permanent, and a part of whose duties shall be to relieve the attendants-in-chief and to follow out under their directions such lines of study as they may plan. Neither should any hospital lack the constant aid of at least one well-prepared chemist, since it is out of the question to look for knowledge of this kind in young physicians untrained to laboratory work; yet we doubt if even to-day there is one available man in Philadelphia capable of making an analysis of blood.

The organization of the new University Hospital is completed, at least on paper; and whilst it is certainly much better than that of any of the older institutions, we think it will have to be modified before it will be anywhere near perfect. The plan of the organization is as follows. There are general, surgical, obstetrical, and medical wards, and

certain special wards,—at present four in number. The resident staff consists of four members: two chief residents, and two assistants. The assistant obtains his position by a competitive examination, and at the end of six months, if he has given satisfaction, is promoted to the position of resident; the whole term of service being one year. As the hospital cannot possibly open with more than a hundred beds, this arrangement is perhaps the best that can be made, since more than four residents could not be maintained with justice to the charity. The assistant acts as clinical clerk, and as an assistant to the resident, who is responsible to the visiting medical officers. Owing to the service being so broken up into specialities, it is evident that when the hospital becomes larger the present organization of the residents would give rise to endless confusion,—two or three of the chiefs wanting the attention of one resident, it might be, at the same time. Fortunately, the right and the will to alter the arrangement as circumstances demand it both exist. It has occurred to us that if, when the hospital is capable of six residents, the time of service were lengthened to eighteen months, so that a resident should serve six months as assistant in the general wards, six months as full resident there, and six months in charge of special wards, the peculiarities of the case would be well met. But let this pass. We are not advocates of any special plan of organization. What we want to see recognized in the new hospital is the principle that all proper facilities for original work should be furnished, and that the performance of such work should be a recognized part of the duty of the staff.

TO those practitioners who see a large number of patients daily, and are not blessed with a remarkable memory, we can commend very highly the office and pocket Case Record Books of the Case Record Company, of Cincinnati, as nerve-saving machines, and as tending to certainty of practice. They are simply blank books, conveniently printed, and arranged so that on one part of the leaf the doctor writes the prescription to be torn off, and on the other copies this, and, if he chooses, fills up a short formula, so as to constitute a brief history of the case.

WE are glad to see that the medical staff of the Orthopædic Hospital have profited by our counsel, and have instigated the board of managers to take their "before and after treatment" woodcuts out of their annual reports.

THE homœopaths will soon be following the lead of Prof. Clinkscales of the eclectic faculty, in asking, Who and what are we? We observe that out of eleven medical books reviewed in the Ohio *Medical and Surgical Reporter* (homœopathic) for January and March, eleven are standard works of the regular profession,—all of them either already noticed or about to be noticed in the pages of the *Times*. In nearly every case our homœopathic cotemporary recommends these works very strongly to its readers. Verily, homœopathy is passing away: in the downward path after the stage of delusion comes the stage of fraud.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 12, 1874.

THE PRESIDENT, DR. WM. PEPPER, in the chair.

DR. JOHN H. PACKARD presented a specimen of *mammary cancer* from Mrs. T., æt. 70, English, mother of six children, only two of whom lived to adult age, and they died of consumption. Her last confinement was twenty-five years ago. Lactation was always normal, without abscess or other difficulty.

The present growth made its appearance as a very small knot, a year or two ago. It began to enlarge rapidly, and occasionally to give her pain, about four months ago. General health perfect. The growth—about the size of a lemon—and the atrophied gland were removed, by operation, March 3, Dr. L. Starr giving ether, and Drs. John Ashhurst, Jr., and Brinckle being present and assisting Dr. Packard. Three or four vessels were secured by torsion. The wound was closed with hare-lip sutures, and carbolized cerate applied.

The case has done well.

Dr. PACKARD also presented the *arteries from the brain of an apoplectic*. Mr. S., æt. 47, seemed in perfect health on the morning of March 5. At 12.30 he was found insensible in the water-closet, at a hotel.

When seen by Dr. Taylor he was partly conscious, though unable to speak. Pupils not markedly abnormal. When asked if the cold applied to his head felt good, he nodded; and when asked where he had pain, he put his right hand under the back of his head. The left arm and leg seemed paralyzed; the exact degree was not noted. His pulse was feeble, his surface pale and cold, and he seemed in a state of collapse. He swallowed two teaspoonfuls of whisky.

When Dr. Packard first saw him, his face was pale, his breathing stertorous; pupils contracted equally; occasional strabismus, and he was totally unconscious. Sinapisms were ordered, also stimulating injections; ice to head, and afterwards cups to back of neck and temples. Reaction took place; great heat of skin; pulse full and tense; right pupil now became dilated; left contracted. He was bled from the arm to about ten ounces, without any effect but to lower the pulse. Death occurred about ten hours after the seizure.

Autopsy, sixty-one hours after death. Head only examined. Some decomposition had occurred. Vessels of the dura mater much congested. A large quantity of coagulated blood effused beneath the pia mater at the

base of the skull, extending up on the outer surface of both cerebral hemispheres, and dipping into all the anfractuosities. The clot seemed to extend down along the spinal canal; it filled the third and fourth ventricles, as well as the right lateral ventricle, which was enormously distended by it. The left lateral ventricle was full of bloody serum.

Several vessels seemed to run through the clot in the right ventricle, and to one of them was attached a small firm bilobed body.

The brain-substance was universally softened; but whether this was a post-mortem change or not, was not apparent.

Dr. R. M. BERTOLET exhibited specimens of *multiple gummata of the cranial bones and dorsal vertebræ, giving rise to extensive destruction of these structures, leading to compression of the spinal column and inducing paraplegia.*

"The accompanying skull and spine were removed from the body of a patient who died at the Philadelphia Hospital. Owing to the low condition of the man when admitted, and to the fact that he was unable to speak any but his own language, very little could be ascertained as to his previous history. Drs. Miller and Keating, resident physicians to the hospital, have, however, kindly furnished me with the clinical records of the case, from which the following summary has been made:

"'Edward Paulisky, æt. 34, a native of Poland, was admitted into the hospital October 14, 1873. He complained of dull pain in the back, and of obstinate constipation. Stated that he had had gonorrhœa several times, and when quite young had a sore on the penis. Did not recollect having had any secondary manifestations. In all other respects had been a very healthy man.

"'The patient was at once put upon iodide of potassium, and improved somewhat for several weeks. In December he began to complain of pain in the region of the kidneys, and tube-casts were detected in his urine. He was then placed under treatment for his renal troubles, the iodide of potassium being discontinued. During the following month the pain in his back became so intense that he was carefully examined for aortic aneurism; but no evidences of such a condition could be detected.

"'About six weeks before his death (February, 1874), gradual loss of both motion and sensation was noticed in both legs, finally amounting to complete paraplegia. The obstinate constipation persisted throughout, but the bladder was controllable.'

"No further records of the autopsy were preserved than these specimens, yet they in themselves are of sufficient interest to merit further study. The skull, which is so freely riddled with more or less complete perforations of various sizes, presents no other evidences of syphilitic alterations than those occurring in the immediate neighborhood of the gummata. Many of these growths can still be seen hanging loosely in these circular cavities, while the peripheral bony margins show an inflammatory process of hyperostosis and sclerotic thickening to be going on. A directly opposite process, leading to rarefaction and atrophy of the bony structures, has been induced in the centre by the pressure of the gradually-expanding tumors. At numerous points, where the perforation through both compact bony layers is incomplete, it will be seen that the erosion extends now more towards the external periosteal surface, while at other places again the pressure of the gummata has evidently been greatest in the direction of the cranial cavity, leading to absorption of the endocranial plate, the external covering remaining intact. There can be little question that in this instance the seat of these syphilitic gummata has been in the diploë, and not subperiosteal, a fact which goes far towards explaining why their presence was not manifested during life, neither by any elevations beneath the integumentary coverings, nor by any ulcerations in the same.

"Upon the anterior surface of the spinal column no less than six large, round, circumscribed tumors are seen. Their presence in this situation has likewise given rise to extensive destructive inflammation. The second dorsal vertebra has been almost completely broken down, permitting a very decided bending of the spinal column at this point. The presence of one of these growths upon the surgical neck of the third rib upon the right side has led to such extensive destruction that a fracture at this portion of the rib has occurred.

"Upon the posterior aspect of the spine but two of these tumors are seen: one is situated upon the left side of the fifth and sixth dorsal vertebræ, the other upon the right side of the ninth. At both points the growths protrude so far into the cavity of the spinal canal as to press firmly upon the spinal cord. In the latter, extensive gray degeneration of the posterior and lateral columns has taken place. The microscopic appearances of these alterations will be described upon a future occasion.

"The sections of the gummata show, at many points, commencing cheesy degeneration. Sections made through specimens hardened in bichromate of potash show that there is a concentric arrangement around the thickened blood-vessels of the highly corpuscular parenchyma of the tumor. Bands of connective-tissue fibres are seen coursing through the field at wide intervals, the interstices between them being completely filled with the small, round, corpuscular elements."

The PRESIDENT said it was on a single occasion only on which he had examined the patient. He was then confined to bed, and complained of intense lumbar pain radiating along the lumbar plexus of nerves. He had understood the man to be syphilitic. There was abnormal pulsation of the abdominal aorta, but he concluded that it was due to mere irritation of the vessel. There was no distinct tremor, or bruit, or thrill, and there was no increased size of the artery. The man was at that time also feeble in his limbs, but there was no complete paralysis. Subsequently he learned that there were unilateral anæsthesia, and motor paralysis, and that the case terminated in convulsions.

The PRESIDENT also asked Dr. Bertolet whether gummata originating in the diploic structures of bone were much more rare than those springing from the subperiosteal tissues.

Dr. BERTOLET said they were more rarely met with; that those gummata characteristic of protracted syphilis and hereditary syphilis manifest themselves in the medullary portion of the bone; whereas in the more recent cases attended by roscola and the papulous syphilides we have usually the periosteal gummata.

Dr. BERTOLET also exhibited a specimen of *epulis*, and said, "It is through the kindness of Dr. Thomas Stellwagen that I am enabled to exhibit this tumor to the Society. We have here a bicuspid, removed from the lower jaw, to which a fragment of the alveolar process is seen firmly united. The tooth was removed from a middle-aged lady, and with its extraction ended what had been, no doubt, a very bad toothache, for there is attached to it a pear-shaped, distinctly nodulated growth, which upon closer inspection is found to arise not from the tooth, but from the periosteum of the adherent bone.

"The tumor is half an inch in length, and measures a quarter of an inch in diameter at its widest part: it is covered with a dense capsule of connective tissue, which at a few points is beginning to undergo calcification. The interior of the growth is filled with a soft, reddish substance, throughout which an imperfectly radiating, denser substance can be seen by the unaided eye.

"The microscopic examination shows the structure to be composed of round nucleated cells, many seen as apparently free nuclei; there are also present numerous giant or myeloplaxic cells, *i.e.*, irregularly-shaped parent-cells of enormous size, containing each from five to twelve daughter-cells. Spindle-shaped cells are also seen, but the round-celled variety predominates. Of these appearances, the existence of the multinuclear giant-cells alone suffices to disclose the sarcomatous nature of the epulis. The fact that the so-called epulides belong to the class of sarcomata was first pointed out by Virchow. They are more frequently found upon the lower than upon the upper jaw, where they may attain, when not interfered with, quite a considerable size. It is seldom that these growths are seen at such an early period of their existence and removed with the same facility as happened in this instance. The interest attached to this specimen lies in the fact that although the tumor unquestionably starts from the periosteal layer of the bone, yet its growth has been inwards at the expense of the cancellous tissue, which has been partially absorbed, and a cavity formed, out of which the tumor is readily lifted. The base of the tumor being opposite the neck of the tooth, it becomes an easy matter to conceive how the less-resisting cancellated structure necessarily first yielded to the gradual expansion of the tumor, which was thus made to assume a position as though it were a central osteo-sarcomata, when in reality it pertains to the periosteum and not to the medullary portion of the bone. The presence of the multinuclear giant-cells does not in the least militate against the view of the periosteal origin of the tumor, since they are found in the periosseous as well as the intraosseous sarcomata of bones generally."

The PRESIDENT presented a specimen of *enormously distended stomach, in connection with caseous consolidation of the left lung, with several abscesses simulating pneumothorax.*

Patrick Quirk, æt. 45, had been under observation for over a year, suffering with aggravated diabetes mellitus. It was found impossible to restrict his diet, and he habitually ate and drank most inordinately. A few months before his death, symptoms of pulmonary disease appeared, and rapid consolidation of the left lung followed. A little later, the physical signs of a cavity in the left mammary region were detected. At this time his morbid craving for food and drink rapidly diminished, and the amount of urine to the proportion of sugar fell. Some days afterwards it was noticed that the dulness which had been present over the lower lobe of the left lung was replaced by large, metallic, tympanitic percussion-resonance, extending from the base of the thorax up to the fourth intercostal space. The quality and volume of this tympany were carefully compared with the resonance over the left hypochondrium, and appeared distinctly different. There were also amphoric breathing and vocal resonance over the antero-lateral part of the left chest, below fourth rib; distinct and very constant metallic tinkling, and marked succussion-splash. These signs evidently suggested pneumothorax, and the sign which chiefly opposed the idea of its presence was the existence of numerous bubbling râles heard apparently superficially over the entire antero-lateral region of left chest.

The diagnosis of pneumothorax circumscribed below the level of the fourth interspace was determined upon. The patient rapidly sank, and died.

At the autopsy, the chest and abdomen were opened, and the organs examined in situ. The left lung was solidified throughout from cheesy infiltration, with four abscesses of considerable size,—two in the lower part of the upper lobe, and two in the lower lobe. There was no pneumothorax; but the pleuræ were in contact throughout, and were, in parts, coated with fresh lymph. The right lung was comparatively healthy, containing but a few scattered nodules of cheesy deposit.

The stomach was enormously distended with gas, and pressed very forcibly up into the concavity of the diaphragm.

It was evident, therefore, that the phenomena above described, which so closely simulated pneumothorax, and which occurred in a case when pneumothorax might have been expected, were dependent upon an enormous stomach, in connection with a consolidated lung, the seat of several abscesses of considerable size.

Dr. H. LENOX HODGE asked whether the stomach was unusually distended by gas.

The PRESIDENT said not at all, except in this instance of sudden distention with flatus, which must have occurred between two of his visits. After this, the man was much oppressed, but did not refer to stricture of the stomach. He had little appetite or thirst; there was no eructation of gas. He was, moreover, at this time dull in intellect, and a very small quantity of opium now acted as promptly as a much larger quantity at an earlier period.

Dr. W. W. KEEN read a paper on *chloral* as preservative of anatomical and pathological tissues (published in the *Medical Times* for March 21, 1874).

REVIEWS AND BOOK NOTICES.

THE SPHYGMOGRAPH: ITS PHYSIOLOGICAL AND PATHOLOGICAL INDICATIONS. The essay to which was awarded the Stevens Triennial Prize by the College of Physicians and Surgeons, New York, April, 1873. Two Hundred and Ninety Illustrations. By EDGAR HOLDEN, A.M., M.D. 8vo, pp. 169. Philadelphia, Lindsay & Blakiston, 1874.

We confess that, after considerable experience with Marcy's Sphygmograph in the wards of a large general hospital, we have come to look upon it as a kind of medical toy, giving at best indications of disease which are more readily and certainly discoverable by other means. It may be true, as Dr. Holden asserts, that the disappointment which has arisen from its use is attributable to faults in its construction, which have been overcome by the modification of the instrument described in this essay. We shall attempt—although it is a difficult task without diagrams—to give our readers some idea of the nature of the alterations which the author has made. The spring of his instrument, instead of pressing down upon the artery, as in Marcy's, partially surrounds it, and, as a consequence, the displacing, and not merely the lifting, power of the vessel is utilized. Thus with each pulsation a force is transmitted not only upwards, but in oblique directions, the preponderance being towards the side upon which the spring may be inclined. "Prolong," he says, "the pulse-spring, and shorten the distance between the point of attachment (the fulcrum) and the point of pressure, and this upward and oblique movement is evident to the eye. To amplify this, allow the free and distal end to be bent as an inclined plane on the curve of a circle; polish it to obviate friction; magnetize it, if desired, to add a repellent power to the power already evident, and allow it to impinge against another lever quite near its attached extremity, make this last flexible, and its distal end will move with regular, accurate sweep under the distensile power transmitted." The movement obtained by this means is from side to side, and in consequence the paper to receive the tracing may lie as in ordinary writing. To make the tracing, an ordinary pen is used, pivoted in such a manner that the paper, and not the delicate

lever, carries its weight. The amount of pressure upon the artery is regulated by making the attachment of the pulse-spring to the body of the instrument by means of a coil of watch-spring, whose tension should be controlled and measured on a dial at will, an amount of pressure being possible beyond any requirement, and reaching four, five, or six points. These are the principal parts of the instrument; the accessories are very much the same as in that of Marcy. The principal advantages claimed by Dr. Holden for his sphygmograph are its cheapness and its ready applicability. No fastenings are employed, and hence there is no interference with the venous circulation. Moreover, no preparation is necessary; not even in most instances the preliminary rolling-up of the sleeve. The instrument is held by the finger and thumb of the left hand, the paper introduced, the ink applied, and the watch-work started by the other hand.

This is certainly a great simplification of the instrument, and it may be the more regular manner in which the pressure is applied will render its tracings more reliable as evidences of disease. We are not, however, prepared to admit that it has reached such a degree of excellence and perfection as to agree with its inventor in thinking that the "sphygmographic record of an applicant for life-insurance would be the safest record he could present as a test for his condition." That it may be relied upon too much, one of the cases reported by him shows, where, in consequence of what was regarded as a normal tracing, a limb was amputated, in defiance of the rules of good surgery, for gangrene, before the line of separation had formed. In fact, in the two hundred and ninety illustrations which he gives the tracings vary materially, and those obtained from healthy persons differ in many instances so slightly from those obtained from the sick that the physician who intends to depend upon the sphygmograph to indicate to him the existence of disease or its nature will find it necessary, if he is not blessed with an unusual memory, to carry a chart with him in his visits to his patients.

The last part of the book is devoted to some very carefully-recorded experiments made by the author with gelseminum, aconite, cannabis indica, and the sulphate of quinia. The tracings of the sphygmograph enabled him to determine that gelseminum, while it reduces the frequency of the pulse, increases the arterial tension, and after a time produces impairment of the heart's action in consequence of a toxic influence upon the nervous system. Aconite, on the other hand, he has found to reduce the frequency of the heart's action without increasing arterial tension.

We have not sufficient space at our command to justify us in entering into fuller details of the contents of the book, some idea of which may be derived from the titles of some of the chapters; they are as follows: "Indications Afforded by the Pulse;" "Translation of Tracings;" "General Properties observable by the Sphygmograph;" "The Practical Application of the Sphygmograph," etc. Dr. Holden is inclined to ascribe the dicrotous wave to the fact that "during the most violent portion of the propulsive effort of the heart, the onward movement may be almost uniform throughout the calibre of any given remote artery,—as, for example, the radial; but as this diminishes, the slowing of the current must appear in the part of it nearest the coats of the vessel, according to a well-known philosophical law, the best exemplification of which is seen in a running stream. In a tube of small dimensions another principle is introduced,—viz., that known as capillary attraction. In both cases, however, the same thing is true: the central part of the current is the last to fail and cease. These two philosophical facts seem to explain in every particular the phenomena of dicrotism. Under all circumstances, except those of such rigidity of arterial coats as to resist slight impressions, the condition might be educed. Careful adjustment of the instrument shows this to be true." He supports his theory by the fact that the wave is increased whenever the arterial tissues are in a state of atonic relaxation, or whenever the amount of blood thrown into the aorta is small, an event usually accompanied by the former condition.

The book has the advantage of being well printed on very good paper, and will, we doubt not, be interesting to those who use the sphygmograph. J. H. H.

HAND-BOOK OF MEDICAL AND SURGICAL REFERENCE. By JOHN A. WYETH, M.D. New York, William Wood & Co., 1873.

THE PHYSICIAN'S DOSE- AND SYMPTOM-BOOK. By JOSEPH H. WYTHES, A.M., M.D. Eleventh Edition, Revised. Philadelphia, Lindsay & Blakiston, 1873.

These books are of the same grade and of similar character, affording excellent ready-made patches to cover the bare places of ignoramuses who are reckless enough to trifle with human life,—pocket editions ostensibly of the science and art of healing, but, in reality, of the science and art of killing. Dr. Wyeth dedicates his book "To the Young Men of the Medical Profession of the United States who are ambitious to succeed." We would amend this to read, "To the Young Men of the Medical Profession of the United States who are so foolish as to believe that success can be achieved by carrying in the breast-pocket knowledge which ought to be in the head." In conclusion, we have a word to say to those who feel a need of such books as these: Let this need show you your ignorance, and demonstrate the necessity of further education in your profession. Let it warn you not to touch the holy things with sacrilegious hands; not to assume, unprepared, the solemn responsibilities of life and death; not to become, through ignorance, pestilences walking at noonday.

SELECTIONS.

WRITING on the action of chemical substances upon the teeth, Prof. J. Foster Flagg uses the following language (*Dental Cosmos*, April, 1874). As he has had a very large experience, and justly enjoys the reputation of being a close observer, great weight seems to us to attach to his words:

"I must at this time, however, direct particular attention to the decided difference which we find to exist between the ordinary chemical action of acids upon such salts and organic tissue as compose tooth-structure and that action which results in caries, for it seems to be no less than *entirely* different. Frequent and long-continued experimentation has failed, in almost every instance, to produce any result which could be considered as analogous to caries; and when, in isolated instances, teeth have been subjected to influences, either accidentally or designedly, which have proven adequate to the induction of a semblance of this disease, it has been found that either the concomitant of galvanism in some form might easily be indicated, or that microscopic research has proven the existence of such pathological conditions structurally as would indicate decided local predisposition to decay, if even the incipiency of actual caries had not been announced by decided 'tubular consolidation.' This latter has been invariably found in the comparatively limited number of examinations of this condition which I have personally been able to make.

"It is somewhat curious, in connection with all the various published results of experiments as to the effect upon teeth of an extended list of so-called injurious articles, embracing the many acids which are in daily use, such as acetic, citric, tartaric, malic, lactic, etc., together with sugar, meats, etc., that we remark only the effects noted, day after day, of enamel so altered in appearance as to have lost its brilliancy, or at length so altered in structure as to be easily scraped away with the finger-nail, or again, of dentine and cementum so softened as to be cut or even bent, and yet no particular mention made of the fact that these results were so unlike caries in every particular as to cause astonishment at their universally allotted position in the books in chapters upon this disease.

"Further than this, I have found repeatedly the most beneficial effects produced by the administration of medicines which, used locally in the seemingly accepted method of experiment, would be disastrous in the extreme; for example, nitro-muriatic acid will be recognized as eminently destructive of tooth-tissue, and thus is almost always prescribed with caution in this direction, and with injunctions that it shall be taken through a glass tube lest it make the teeth 'decay.' I have yet to see the first case of dental caries which I could attribute to the use of any acid medicine, while I have again and again seen remarkably *prompt cessation of dental tenderness and tendency to caries*, resulting from local weakness of tooth-structure consequent upon long-continued biliary difficulty, from the administration of fifteen to twenty drops of nitro-muriatic acid daily.

"It has for many years been accepted by observant dental practitioners that teeth are injured, to a certain extent, by the long-continued use of acid medicines; but it has also been noticed that the injury is *general*, just as in the ordinary experiments with acids, that enamel suffers most of all dental tissues, that it loses its brilliancy and density of structure, and that the cases in which this occurs most markedly are usually those in which the precaution of the 'tube' has been faithfully relied upon.

"For this reason, I have taught that the 'tube' was unreliable for the purpose used, and that such injurious action as was liable to ensue from acid medicaments should be prevented by rinsing the mouth *thoroughly* immediately after swallowing the medicine, using for this purpose water to which had been added a few drops of solution of ammonia, or in which had been dissolved a small quantity of bicarbonate of soda.

"Solutions of alum, which are frequently prescribed for many kinds of sore mouth, are found to be injurious in a general way only; acting more or less severely, according to frequency and continuance of applications and strength of solutions; these roughen and soften the enamel, and necessarily accelerate the progress of decay in already-formed cavities, but never seem to cause decay of the teeth in the circumscribed and localized manner which pertains to dental caries."

GLEANINGS FROM OUR EXCHANGES.

Wound of the Right Ilium (*Trans. of the Medical Society of Virginia*, 1873).—Dr. S. C. Gleaves reports the case of a stout, athletic man æt. 35, who was shot with a Colt's navy pistol, the ball taking effect near the middle portion of the ilium, two inches below the crest, passing downwards and inwards nearly in a line with the symphysis pubis, and fracturing the bone through the crest. Contrary to orders, on the following day he rode ten miles on horseback. In a week he had slight fever and great pain; the wound suppurating a little. In three weeks he had high fever with violent pain, the wound having ceased to suppurate for several days. The probe passed easily for three inches, but then met with resistance; water-dressings, morphia, and mercurial purgatives were ordered. In two or three days he improved somewhat, but about three weeks later grew much worse again, became weak and emaciated with heavy night-sweats, chills, anorexia, and symptoms of pyæmia and speedy dissolution. Careful palpation gave evidence of fluid in the pelvic cavity. There was no discoloration or tenderness in either the perineal or inguinal region. It was then resolved to trephine the pelvis. Brandy being administered, the patient was placed on his left side, his legs slightly flexed, and chloroform was administered. An incision three and a half inches long was then made through the glutei, directly above the great sciatic notch, and the parts were carefully dissected to the bone. A trephine was applied, and its withdrawal was followed by a full flow of sanious pus, thick and offensive. A digital examination did not reveal the presence of the ball. After a pint and a half of pus was discharged, a compress was applied and brandy and morphia given. From this time for three months a pint of pus was discharged daily, the patient taking three times in the twenty-four hours fifteen drops of tincture of the chloride of iron and three grains of sulphate of quinia, and using in the same time a pint of brandy or rye whisky. He was confined to his bed for five months, losing thirteen gallons of pus, and drinking sixteen gallons of whisky and brandy. He finally recovered entirely.

Chloral Hydrate and Camphor as a Local Application in Neuralgia.—It is stated that the intimate mixture of equal parts of chloral hydrate and camphor will produce a clear fluid which is of the greatest value as a local application in neuralgia. Mr. Lenox Browne relates (*Brit. Med. Journ.*, March 7, 1874) that he has employed it, and induced professional friends to do so, and that in every case it afforded great, and in some instantaneous, relief. "Its success does not appear," he says, "to be at all dependent on the nerve affected, it being equally efficacious in neuralgia of the sciatica as of the trigeminus. I have found it of the greatest service in neuralgia of the larynx, and in relieving spasmodic cough of a nervous or hysterical character." It is only necessary to paint the mixture lightly over the painful part, and to allow it to dry. It never blisters, though it may occasion a tingling sensation of the skin. He has found it also an excellent application for toothache.—*Medical News.*

A New Method for the Transfusion of Blood (*New York Medical Record*, March 30, 1874).—Dr. Joseph W. Howe believes that the essential parts of the ordinary process of transfusion are open to several grave objections. The blood, being exposed for a length of time to atmospheric influences, is liable to receive deleterious ingredients. In the process of "defibrination" a quantity of red globules, the chief nutritive and stimulating element of the blood, are necessarily entangled in the meshes of the fibrin, and are removed with it. In cases where the hemorrhage has been great, the time spent in defibrinating may be of vital importance. The wounds in the veins being comparatively large, there is more or less danger of phlebitis or thrombosis. Dr. Howe has slightly modified Dieulafoy's aspirator, and has used it for the purpose of transfusion. He employs rubber tubing about half the size of that which ordinarily belongs to the aspirator, and small needles with curved points. When ready for use the aspirator is placed in a basin of warm water, and allowed to remain there from the beginning to the termination of

the operation. A healthy adult being selected, a broad roller bandage is tied around the arm above the elbow, the fore-arm partially flexed, and the hand made to grasp tightly a round piece of wood. When the superficial veins are thus fully distended, a needle is inserted obliquely from above downwards into the median basilic vein. The operator grasps the rubber tube between the thumb and forefinger, turns the stop-cock of the aspirator, and allows the blood to rush in and fill up the cylinder. By compressing the tube occasionally, the blood will not be drawn out of the vein more quickly than it enters. A vein in the patient's arm having in the mean time been exposed, the air is expelled from the tube on the opposite side of the aspirator by forcing a little blood through it, or by sucking out the air and afterwards compressing the tube between the thumb and forefinger so as to prevent its re-entrance. The needle is then inserted into the vein, and the healthy blood thrown from the aspirator into the circulation of the exsanguined patient.

When the vein is empty, or so small as to prevent the introduction of the needle, a canula may be employed. To do this the vein must be isolated for about an inch, and two ligatures passed around it. The ends of the lower ligature are crossed over the vein, brought down around the arm, and tied. This will prevent bleeding when the vein is opened. The wall of the vein is next pinched up with a forceps, an opening made through it, and the canula inserted; the upper ligature is tied over it to keep it in place, and the blood is then injected as before. Dr. Howe details a case in which he has recently and successfully employed this method. He claims for it the following advantages:

"1. It takes less time than any other.

"2. The blood is transferred without exposing it to the air.

"3. The nutritive elements of the blood are not diminished.

"4. As the fluid is drawn into a vacuum, there is no danger of coagula forming.

"5. The opening in the vein being a simple needle-puncture, there is less danger of phlebitis or thrombosis."

THE ELASTIC LIGATURE (*The Lancet*, March 21, 1874).—Mr. Henry Kettle reports the case of a lady, who during four years of married life had always suffered excessive pain during coitus. For eighteen months this pain had been almost intolerable, and all sexual intercourse had ceased. She was in a depressed, emaciated, and generally miserable condition. She had been treated for some time by a distinguished specialist for vaginismus, but had never obtained any relief. Upon examination there was found growing from the posterior fourchette, more upon the left side than the right, what appeared to be an exaggerated third nympha, in breadth about an inch, but much broader at its free extremity; in length an inch and a half; it was exquisitely sensitive, so that even walking produced great pain. A double elastic ligature was passed through the base of the growth, and was tied on either side. In three days the whole of it had separated, leaving two small granulating spots, which were completely healed in three or four days more.

The cure was complete and permanent.

EMBOLISM AFTER THE INJECTION OF PERCHLORIDE OF IRON (*The Lancet*, March 21, 1874).—Mr. James F. West reports the case of a child, æt. 9 months, affected with a small nævoid tumor in the right ala nasi near the lip. It had existed from birth, but was slowly growing, and beginning to involve the left ala. It was soft and compressible, and over its surface large and distended capillaries were seen in three or four spots, each as large as a pea. Deformity from the prominent situation of the tumor necessitated operative interference; and as it was considered that no mode of operation offered so good an opportunity for the prevention of an ugly cicatrix as the injection of solution of perchloride of iron, it was decided to use it, and, chloroform having been given, three drops were injected by a hypodermic syringe into the lowest part of the tumor. The child struggled and cried, but there was no other unfavorable symptom. Three more drops were then injected into the upper part of the tumor, and three at another highly vascular spot, when, on withdrawing the syringe, the child's face changed suddenly to a dusky hue, the hands and feet became blue, the pulse could not be felt, and the breathing seemed to be arrested; on raising the eyelids, the eyeballs were seen to be fixed and turned upwards and outwards, and the pupils were slightly dilated. Artificial respiration was at once commenced, and in twenty minutes natural respiratory movements commenced. For the next six hours he continued semi-comatose, with a very feeble pulse, dilated pupils, livid hands and feet, and the angle of the mouth on the right side somewhat drawn down. He then became somewhat warmer, with a better pulse, and less labored breathing, but still remained unconscious. He continued in this state for three days, when he died, with well-marked symptoms of hemiplegia.

At the post-mortem examination, the membranes of the brain were found slightly congested; the anterior portion of both lobes of the cerebrum, and also the inner surface of the brain as seen in the walls of the lateral ventricles, were reduced to a soft pulp, while the posterior part of the brain-substance was in a healthy state. A clot was seen stretching from the right internal carotid artery along the middle cerebral artery of the same side. The lungs were congested. The heart contained a small quantity of dark fluid blood. The liver, kidneys, and other viscera were normal.

The embolism in this case was undoubtedly produced by the injection of the perchloride of iron, which should therefore be rejected as a remedy for nævi on the face.

SCIATICA PROMPTLY CURED BY CROTON CHLORAL HYDRATE.—Dr. R. W. Falconer, of Bath, relates (*Brit. Med. Journ.*, February 28, 1874) the following case:

"A lady, æt. 50, of rheumatic diathesis, was suddenly seized with sciatica. The pain was most severe. Two grains of croton chloral hydrate, with enough extractum anthemidis to make a pill, were given. Half an hour after taking the pill, the pain had ceased; there was a very slight return afterwards. With the beneficial effect of the croton chloral hydrate, there was 'some confusion of head, and near objects appeared distant.' She had no pain the following day until the evening; then a sharp attack occurred. Half a pill was given at once, and in twenty-five minutes the pain was gone. She had 'slight confusion of head; no alteration of vision.' There has been no recurrence of sciatica since. The first attack occurred fourteen days ago."

AQUAPUNCTURE IN THE TREATMENT OF NEURALGIA.—Dr. Siredey has employed aquapuncture for the last three years, for the relief of sciatic, intercostal, and ilio-lumbar neuralgia, and has always found it to produce considerable relief, and sometimes a cure by a single application. The process of aquapuncture consists in forcibly projecting with a particular apparatus an extremely fine jet of water upon a point of the skin. This produces at the spot a small raised blister with a minute orifice at its summit, from which flows a fluid colorless or sometimes tinged with blood. After a few hours the blister falls, and the following day a small dark scab is found in its place.—*L'Union Méd.*, March 3, 1874, from *Bull. de Thérap.*—*Medical News.*

MISCELLANY.

MEDICAL SCHOOLS AND GRADUATES.—There are in the United States, according to Dr. Toner, 101 medical teaching bodies, classified as follows: regular medicine, 77—of which 16 teach pharmacy; 8 homœopathic, 8 dental, 6 eclectic, and 2 botanic.

The annual accession to the ranks of the medical profession through American colleges is: Doctors of medicine, 1698; *ad eundem* degrees, 79; honorary, 16; and 5776 matriculants attending college. He says, if the returns were complete from all colleges, it would probably reach 2000 graduates, and perhaps 6500 in attendance on lectures.

The whole number of the medical profession of the United States numbers 62,383.—*The Cincinnati Lancet and Observer.*

MEDICAL GRADUATES IN 1874.—University of Pennsylvania, 121; Jefferson Medical College, Philadelphia, 151; College of Physicians and Surgeons, New York, 84; Bellevue Hospital Medical College, 181; College of Physicians and Surgeons, Baltimore, 26; Medical College of Ohio, 87; Medical Department of the University of Louisville, 123; Cincinnati College of Medicine and Surgery, 22; Chicago Medical College, 44; College of Physicians and Surgeons of Syracuse, N.Y., 9; Medical College of the Pacific, 12; Medical Department of the University of California, 8.—*Medical News.*

MECHANICAL CONTRACTION OF THE UTERUS.—Sir James Simpson used to mention a custom among some savage tribes, where, on the approach of labor, a stake was driven into the ground, and a long rope attached to it; the distal end of this rope was wound around the patient's body, and she herself gradually turned round so as to be brought nearer to the stake as the labor progressed, thus insuring an efficient following-up of the uterus upon the descending child, thereby preventing post-partum hemorrhage.—*British Medical Journal.*

ACCORDING to the *Baltimore Sun*, the communal council of Vienna has adopted, by a large majority, a proposal to establish in the cemetery the necessary apparatus for burning the bodies, the use of which will be optional and open to all. The council of Grätz has passed a similar resolution.

IN the séance of February 14, 1874, of the Société de Biologie of Paris, a note was read from M. Philipeaux, describing the case of two axolotls (batrachians) which had long suffered from chronic ascites, and were cured by tapping and the injection of alcohol into the peritoneal cavity.

A POW-WOW doctress in Nazareth, Pennsylvania, recently undertook to bleed a lady for an epileptic fit. Unfortunately, she opened an artery instead of a vein, and the patient died before assistance could be obtained. —*Atlanta Medical and Surgical Journal.*

INCIPIENT abortion is said to have been arrested promptly by chloral hydrate.

MR. JOSEPH P. REMINGTON has been elected to the Chair of the Theory and Practice of Pharmacy in the College of Pharmacy of this city, recently rendered vacant by the death of Prof. Procter.

M. BALBIANI has been appointed to the chair of Embryology in the College of France, rendered vacant by the death of M. Coste.

ERRATUM.—In No. 127 of the *Philadelphia Medical Times*, p. 422, line 32, second column, for 15° C. read 16° C.

THE *Gazette Médicale* of March 7 contains an elaborate paper by M. Poncet on cysticercus in the eyeball.

THE American Medical Association meets this year at Detroit, Michigan, on June 2.

NOTES AND QUERIES.

MULTIPLE IMPREGNATION.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—The following occurrence has seemed to me worthy a place in your Notes and Queries: A black-and-tan slut in my possession was covered, a short time since, by a dog of her own species, and within two hours by a spaniel. In due course she gave birth to a litter of six pups. Four of these are pure black, with curly wool, and other marks that indicate a relationship with the spaniel. The remaining two are tan-marked, with smooth, sleek hair, and undoubtedly must acknowledge the black-and-tan dog as the author of their being.

Very respectfully,

OBSERVER.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM APRIL 7, 1874, TO APRIL 13, 1874, INCLUSIVE.

HEAD, J. F., SURGEON.—Granted leave of absence for twenty days on Surgeon's Certificate of Disability. S. O. 65, Department of Dakota, April 3, 1874.

HEGER, ANTHONY, SURGEON.—In addition to his present duties, during absence of Surgeon Head, to perform duties of Medical Director of the Department. S. O. 65, c. s., Department of Dakota.

BAILY, J. C., SURGEON.—To report in person to the Commanding General, Department of the South, for assignment. S. O. 78, A. G. O., April 10, 1874.

BROWN, HARVEY E., ASSISTANT-SURGEON.—Granted leave of absence for thirty days, with permission to apply for an extension of thirty days. S. O. 52, Department of the Gulf, April 1, 1874.

MIDDLETON, P., ASSISTANT-SURGEON.—Relieved from duty in Department of the South, and to report in person to the Commanding General, Department of Texas, for assignment. S. O. 78, c. s., A. G. O.

DEWITT, CALVIN, ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the South, for assignment. S. O. 78, c. s., A. G. O.

GIRARD, A. C., ASSISTANT-SURGEON.—Granted leave of absence for four months, on Surgeon's Certificate of Disability, with permission to go beyond sea. S. O. 79, A. G. O., April 11, 1874.

POPE, B. F., ASSISTANT-SURGEON.—Relieved from duty in the Department of the South, and to report in person to the Commanding General, Department of Texas, for assignment. S. O. 78, c. s., A. G. O.

CAMPBELL, A. B., ASSISTANT-SURGEON.—Assigned to duty at Ringgold Barracks, Texas. S. O. 54, Department of Texas, March 30, 1874.

STEINMETZ, W. R., ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to Baltimore, Maryland, and, on arrival, to report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.

HARVEY, P. F., ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to Burlington, Iowa, and, on arrival, report by letter to the Surgeon-General. S. O. 78, c. s., A. G. O.